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SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

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PTOL-90A (Rev. 10/06)

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>17 November 2006</u>.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-44</u> is/are pending in the application.

  4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-44</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

  Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

  Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

  a)☐ All   b)☐ Some * c)☐ None of:

    1.☐ Certified copies of the priority documents have been received.

    2.☐ Certified copies of the priority documents have been received in Application No. _____.

    3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

  * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3)☐ Information Disclosure Statement(s) (PTO/SB/08)
  Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
  Paper No(s)/Mail Date. _____.
5)☐ Notice of Informal Patent Application
6)☐ Other: _____.

DETAILED ACTION

Response to Amendment

1.   Claims 1-44 are pending as amended

2..   Applicant's has overcome objections to the abstract, the speciation, claim

heading and the claim numbering.

3.   Applicant's arguments filed November 17, 2006 have been fully considered but

they are not persuasive. Applicant's amendment has not overcome the objections and

rejections listed below. Therefore, this action is made FINAL.

Claim Objections

4.   Claims 1, 12, 23, 35, 37, 38, 43 and 44 are objected to because of the following

informality: intended use statements. The use of the word "for" followed by a verb

creates an intended use statement that does not provide a limiting function. These

claims should be reworded using terms that require the element or potential functional

limitation. Appropriate correction is required.

5.   Claim 1 and 23 is objected to because of the following informality: optional

statements. The phrases like "so that", "may be" and "should be" state possible

capabilities but does not require them. See MPEP § 2111.04. Appropriate correction is

required.

Claim Rejections - 35 USC § 112

6.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly
> claiming the subject matter which the applicant regards as his invention.

7.   Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite

for failing to particularly point out and distinctly claim the subject matter which applicant

regards as the invention. The use of the word "efficiently" makes the claim vague and

indefinite. Efficiency is an opinion that is not quantifiable. Therefore, it cannot be

determined what is included within the scope of the claim. Accordingly, Claim 1 is

indefinite.

8.   Claims 1, 23, 43 and 44, and all other claims by dependence on these claims,

are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to

particularly point out and distinctly claim the subject matter which applicant regards as

the invention. The amendments to the claims seem to contradict information in the

specification.

First, the requirement that the lists comprise wildcard and negation information

differs from the description in the specification. Comprising means "including at least".

However, in the specification, neither negation information or wildcards are required.

The system can handle both but neither is required (See PGPub paragraphs [0088-0091]). A subscriber can subscribe to a published item without using wildcards or negation information. Additionally, the phrasing of the claims seems to say the index is build based on a list of subscribers with entries indicating subscriber for each item in the list and a default list of subscribers. If the list id described as containing data on what the subscriber is interested in or not interest in, then why would there be a default list of subscriber in the list of subscriber interests. The use of the word "indicating" also makes the claim unclear. The item is either in the list or its not; it is not a matter of indicating. It is also confusing whether the entries indicate subscribers or the wildcard and negation information indicate subscribers. The specification seems to say that the wildcard and negation in formation can be used in the published items subscribed to. Contrary to the specification, the claims seem to say that the wildcard and negation information indicates subscribers not the published item. The list is also of subscribers so the description that the lists indicate "subscribers for each item of data in the lists" does not make sense. It would seem to be the other way around based on the specification. It is unclear which of the elements in the build module/building step describe the index and which describe the list that the index is built on. The way the claim is written the entire step describes the list on which the index is built. However, according to the specification (PGPub paragraph [0077]), some of the details apply to the index not the list. For example, the default list is in the index not the list.

Next, the resolution module/steps after building also are unclear. If the subscribers are databases, then how would an item be displayed to the database. The

addition of the requirement of "constant time" also makes the claim unclear. The index

as described in a hash table which is still a list that must be searched for the published

item. Once the item is found, then the subscribers are all known. The search time

seems to still depend on the number of published items in the index, even though the

number of subscribers does not matter. It is unclear how the search of the index can be

done in constant time since the time would seem to depend on the number of published

items in the index. Therefore, the examiner is unable to fully ascertain the meaning of

constant time. Also, due to the optional and intended use language in the claims, it is

unclear what is actually required by them and what would fall within the scope of the

claims. Accordingly, Claims 1-44 are indefinite.

9.   Claims 18, 19 and 34 are rejected under 35 U.S.C. 112, second paragraph, as

being indefinite for failing to particularly point out and distinctly claim the subject matter

which applicant regards as the invention. When an "if" is used there must also be an

"else" to provide what happens when the condition is not met (as done in Claim 23 with

"if" and "otherwise"). Alternatively, in some situations the "if" can be changed to "when".

10.   Claim 44 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite

for failing to particularly point out and distinctly claim the subject matter which applicant

regards as the invention. Claim 44 has been amended in a way that seems to add

downloading as a step in the method that the instructions being is downloading will

perform.

Claim Rejections - 35 USC § 101

11.   The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

12.   Claims 1-22 and 44 are rejected under 35 U.S.C. § 101 because the claims are directed toward non-statutory material.

13.   Claims 1-22 and 44 are rejected under 35 U.S.C. § 101 because the claims are functional descriptive material. The system in Claim 1 is software per se, which is functional descriptive material and therefore non-statutory. Claim 1 lacks the necessary physical structure to be a machine or article of manufacture. Claims 2-22 depend from Claim 1 and do not add any physical structure. Therefore, Claims 2-22 are also functional descriptive material. Additionally, Claim 44 is software per se, which is functional descriptive matter. It lacks the necessary physical structure to make it an article of manufacture or a machine. Claims 1-22 and 44 are directed to non-statutory material.

14.   Claims 1-22 are rejected under 35 U.S.C. § 101 because the claims lack a tangible result. The final action in Claim 1 is "determining subscribers". This "determining" is not a tangible result. Claims 2-22 do not add a tangible result to the system of Claim 1. There is no tangible result that would make the determination useful. Therefore, Claims 1-22 are non-statutory.

Claim Rejections - 35 USC § 103

15.   The text of those sections of Title 35, U.S. Code not included in this action can

be found in a prior Office action.

16.   Claims 1-8, 12, 22-28, 38 and 42-44 are rejected under 35 U.S.C. 103(a) as

being unpatentable over Zarmer et al., U.S. Patent No. 5,625,818 (hereinafter Zarmer)

and in view of Collison, U.S. PGPub No. 2004/0139166 (hereinafter Collison).

As for Claim 1, Zarmer teaches:

A system for determining subscribers to which a published item of data should be

replicated, the system comprising:

an interface module (See e.g. Zarmer - col. 5, lines 2-10 and col. 7, lines 5-10)

for receiving user input of lists of a plurality of subscribers, each list specifying items of

data to be replicated to a given subscriber (See e.g. Zarmer - subscribing col. 13, lines

2-10);

a build module for building an index based on the lists of the plurality of

subscribers containing comprising negation information entries indicating subscribers

for each item of data specified in the lists (See e.g. Zarmer - ObjectMan can search list

so it was built – col. 11, lines 12-38, can unsubscribe - col. 4, line 66- col.5, line 7 and

26-45, and RemoveInterestedView – col. 14, lines 22-27 and RemoveInterestedParties

col. 28, line 65- col. 29, line 35) and a default list of subscribers for items of data not

matching any of the entries (See e.g. Zarmer -auto-interest col. 22, lines 42-53); and

a resolution module for receiving a published item of data and determining in

constant time subscribers to which the published item should be replicated based on the

index, so that said published item may be efficiently replicated for display to subscribers

(See e.g. Zarmer -ObjectMan – col. 11, lines 12-38).

Zarmer does not teach wildcards. However, Collison teaches building entries

including a wildcard for indicating all items of data of a certain type should be replicated

to a subscriber (See e.g. Collison - paragraphs [0026-0031]).

Zarmer and Collison are from the analogous art of communicating with remote

computers and databases from a main server. It would have been obvious to one of

ordinary skill in the art at the time the invention was made to have combined Zarmer

and Collison. The motivation to combine Zarmer and Collison comes from the common

goal of efficient communication of data to multiple computers over a network. Zarmer

and Collison allow computers to subscribe to receive data or messages that they have

an interest in receiving. Collison adds flexibility to the Zarmer system by allowing the

use of wildcards in the subscribing process. Wildcards are a common tool to allow

clients to find things without being precise in their selections. Since the subscribers to

the Zarmer system would naturally want to subscribe to all topics in their interest areas

not just the ones they knew the exact names of, it would be logical to use the common

tool of wildcards as presented in Collison.

As for Claim 2, <u>Zarmer</u> as modified by above also teaches:

The system of claim 1, wherein a subscriber comprises a replicate database (See e.g. <u>Zarmer</u> - IP is subscriber database col. 9, line 17-60 and col. 16, lines 52-64 and Claim 1 – second database portion is a substantial replica of the first).

As or Claim 3, <u>Zarmer</u> as modified by above also teaches:

The system of claim 1, wherein a published item of data comprises an item of data published by a primary database for replication (See e.g. <u>Zarmer</u> -CS is publisher database col. 9, line 17-60, col. 7, lines 5-10 and col. 8, lines 32-40 and Claims 1 and 2).

As for Claim 4, <u>Zarmer</u> as modified by above also teaches:

The system of claim 1, wherein the lists of the plurality of subscribers include a list specifying at least one item of data not to be replicated to a particular subscriber (See e.g. <u>Zarmer</u> -RemoveInterestedView – col. 14, lines 22-27 and RemoveInterestedParties col. 28, line 65- col. 29, line 35).

As for Claim 5, <u>Zarmer</u> as modified by above also teaches:

The system of claim 1, wherein the lists of the plurality of subscribers include a list comprising a negation set indicating that all data other than items specified on the list should be replicated to a particular subscriber (See e.g. <u>Zarmer</u> -col. 4, line 66-

col.5, line 7 and 26-45, and RemoveInterestedView – col. 14, lines 22-27 and

RemoveInterestedParties col. 28, line 65- col. 29, line 35).

As for Claim 6, Zarmer as modified by above also teaches:

The system of claim 1, wherein the interface module receives at least one string

identifying data to be replicated to a subscriber (See e.g. Zarmer -AddInterestedView

col. 14, lines 20-23 and col. 13, lines 3-8 and AddInterestedParties col. 28, line 65- col.

29, line 35).).

As for Claim 7, Zarmer as modified by above also teaches:

The system of claim 6, wherein the build module builds the index based, at least

in part, on said at least one string (See e.g. Zarmer -ObjectMan – col. 11, lines 12-38).

As for Claim 8, Zarmer as modified by above also teaches:

The system of claim 7, wherein the index includes an entry representing a

particular item of data and at least one subscriber to which the particular item of data is

to be replicated (See e.g. Zarmer -ObjectMan – col. 11, lines 12-38).

As for Claim 12, Zarmer as modified by above teaches the system of Claim 1.

Collison also teaches an entry including a wildcard for indicating all items of data of a

certain type should be replicated to subscribers of said entry (See e.g. Collison -

paragraphs [0026-0031]).

As for Claim 22, Zarmer as modified by above also teaches:

The system of claim 1, wherein the build module removes a subscriber from the

index in response to a request to remove a subscriber (See e.g. Zarmer -

RemoveInterestedView – col. 14, lines 22-27).

As for Claims 23, 43 and 44, Zarmer teaches:

A method for determining subscribers to which a published item of data should

be replicated, the method comprising:

receiving lists of a plurality of subscribers, each list specifying items of data to be

replicated to a given subscriber (See e.g. Zarmer -subscribing col. 13, lines 2-10);

building an index based on said lists of the plurality of subscribers containing

entries comprising negation information indicating subscribers to which each item of

data specified in said lists should be replicated (See e.g. Zarmer - ObjectMan can

search list so it was built – col. 11, lines 12-38, can unsubscribe - col. 4, line 66- col.5,

line 7 and 26-45, and RemoveInterestedView – col. 14, lines 22-27 and

RemoveInterestedParties col. 28, line 65- col. 29, line 35) and a default list for indicating

subscribers to published items of data not matching any of the index entries (See e.g.

Zarmer - auto-interest col. 22, lines 42-53);

given a published item of data, determining in constant time whether the

published item matches at least one entry in the index (See e.g. Zarmer -ObjectMan

can search list so it was built – col. 11, lines 12-38);

if the published item matches at least one entry, generating a set of subscribers

to which the published item should be replicated based on the subscribers associated

with said at least one entry (See e.g. Zarmer -ObjectMan can search list so it was built –

col. 11, lines 12-38 and AutoBroadcast col. 15, lines 24-30); and

otherwise, returning the default list of subscribers to which the published item

should be replicated (See e.g. Zarmer -col. 22, lines 43-50).

Zarmer does not teach wildcards. However, Collison teaches building entries

including a wildcard for indicating all items of data of a certain type should be replicated

to a subscriber (See e.g. Collison - paragraphs [0026-0031]). The motivation to

combine Collison and Zarmer is stated above in Claim 1.

As for Claim 24, Zarmer as modified by above also teaches:

The method of claim 23, wherein a subscriber comprises a replicate database

(See e.g. Zarmer- IP is subscriber database col. 9, line 17-60 and col. 16, lines 52-64

64 and Claim 1 – second database portion is a substantial replica of the first).

As for Claim 25, Zarmer as modified by above also teaches:

The method of claim 23, wherein a published item of data comprises an item of

data published by a primary database for replication (See e.g. Zarmer -CS is publisher

database col. 9, line 17-60, col. 7, lines 5-10 and col. 8, lines 32-40 and Claims 1 and

2).

As for Claim 26, <u>Zarmer</u> as modified by above also teaches:

The method of claim 23, wherein said receiving step includes specifying items of data not to be replicated to a subscriber (See e.g. <u>Zarmer</u> -RemoveInterestedView – col. 14, lines 22-27 and RemoveInterestedParties col. 28, line 65- col. 29, line 35).

As for Claim 27, <u>Zarmer</u> as modified by above also teaches:

The method of claim 23, wherein said receiving step includes receiving a list comprising a negation set indicating that all data other than items specified on the list should be replicated to a subscriber (See e.g. <u>Zarmer</u> -col. 4, line 66- col.5, line 7 and 26-45, and RemoveInterestedView – col. 14, lines 22-27 and RemoveInterestedParties col. 28, line 65- col. 29, line 35).

As for Claim 28, <u>Zarmer</u> as modified by above also teaches:

The method of claim 23, wherein said receiving step includes receiving at least one string identifying data to be replicated to a subscriber (See e.g. <u>Zarmer</u> -ObjectMan – col. 11, lines 12-38).

As for Claim 38, <u>Zarmer</u> as modified by above teaches the system of Claim 23. <u>Collison</u> also teaches building entries including a wildcard for indicating all items of data of a certain type should be replicated to a subscriber (See e.g. <u>Collison</u> - paragraphs [0026-0031]).

As for Claim 42, <u>Zarmer</u> as modified by above also teaches the determining step includes building a list of subscribers based upon a plurality of matching entries (See e.g. col. 11, lines 30-38).

17.   Claims 9-11, 13-19, 20-21, 29-37 and 39-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over <u>Zarmer</u> in view of <u>Collison</u> as applied above, and in further view of <u>Pedrizetti</u> et al., U.S. Patent No. 6,151,708 (hereinafter <u>Pedrizetti</u>).

As for Claim 9, <u>Zarmer</u> as modified teaches the system of claim 1. <u>Zarmer</u> does not teach the use of a hash table. However, <u>Pedrizetti</u> teaches a hash table of entries based on the lists of the plurality of subscribers (See e.g. <u>Pedrizetti</u> - Claim 2 and col. 4, lines 55-58).

<u>Zarmer</u> and <u>Pedrizetti</u> are from the analogous art of updating remote computers and databases from a main server. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have combined <u>Zarmer</u> and <u>Pedrizetti</u>. <u>Zarmer</u> and <u>Collison</u> are from the analogous art of communicating with remote computers and databases from a main server. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have combined <u>Zarmer</u> and <u>Collison</u>.

The motivation to combine <u>Zarmer</u> and <u>Pedrizetti</u> comes from the common goal of efficient automation. <u>Zarmer</u> discusses the problems with manually tracking

published data (See col. 1, lines 30-55). Pedrizetti discusses the issues with large

updates and version control (See col. 1, lines 12-40). Both try to overcome these

issues by automating the version control and data transfers over networks to interested

computers. Pedrizetti adds the well-known hash table to the file transfer system of

Zarmer in order to determine which data goes to which interest client computer. Zarmer

and Pedrizetti allow a server computer to publish data to client computers that have

expressed an interested in the data in an efficient automated process.

The motivation to combine Zarmer and Collison comes from the common goal of

efficient communication of data to multiple computers over a network. Zarmer and

Collison allow computers to subscribe to receive data or messages that they have an

interest in receiving. Collison adds flexibility to the Zarmer system by allowing the use

of wildcards in the subscribing process. Wildcards are a common tool to allow clients to

find things without being precise in their selections. Since the subscribers to the Zarmer

system would naturally want to subscribe to all topics in their interest areas not just the

ones they knew the exact names of, it would be logical to use the common tool of

wildcards as presented in Collison.

As for Claim 10, Zarmer teaches the system of Claim 1. Zarmer does not teach

a bitmap string. However, Pedrizetti teaches a bitmap string representing subscribers

to which an item of data is to be replicated (See e.g. Pedrizetti - col. 4, lines 1-13 and

50-54).

As for Claim 11, <u>Zarmer</u> teaches the system of Claim 1. <u>Zarmer</u> does not teach a bitmap string. However, <u>Pedrizetti</u> teaches the bitmap string includes one bit for each subscriber (See e.g. <u>Pedrizetti</u> - col. 5, lines 26-45 and col. 4, lines 50-54).

As for Claim 13, <u>Zarmer</u> teaches the system of Claim 1. <u>Zarmer</u> does not teach a bitmap string. However, <u>Pedrizetti</u> teaches a bitmap string representing the default list of subscribers (See e.g. <u>Pedrizetti</u> - client is subscriber - col. 3, lines 40-57 and col. 4, line 66- col.5, line 7).

As for Claim 14, <u>Zarmer</u> as modified above teaches the system of Claims 1 and 13. <u>Zarmer</u> does not teach adding subscribers to the list. However, <u>Pedrizetti</u> teaches adding each subscriber having a list comprising a whole set to the bitmap string representing the default list of subscribers (See e.g. <u>Pedrizetti</u> - col. 4, line 66- col.5, line 7 and 26-45).

As for Claim 15, <u>Zarmer</u> as modified above teaches the system of Claims 1 and 13. <u>Zarmer</u> does not teach adding subscribers to the list. However, <u>Pedrizetti</u> teaches adding each subscriber having a list comprising a negation set to the bitmap string representing the default list of subscribers (See e.g. <u>Pedrizetti</u> - col. 4, line 66- col.5, line 7 and 26-45).

As for Claim 16, <u>Zarmer</u> teaches the system of Claim 1. <u>Zarmer</u> does not teach a hash value for items to be published. However, <u>Pedrizetti</u> teaches a hashed value based on at least one string identifying the published item (See e.g. <u>Pedrizetti</u> - col. 4, lines 1-17, 55-59).

As for Claim 17, <u>Zarmer</u> as modified above teaches the system of Claims 1 and 16. <u>Zarmer</u> does not teach a hash value for items to be published. However, <u>Pedrizetti</u> teaches searches for the hashed value in the index (See e.g. <u>Pedrizetti</u> - col. 5, lines 7-45).

As for Claim 18, <u>Zarmer</u> as modified above teaches the system of Claims 1 and 17. <u>Zarmer</u> does not teach a hash value for items to be published. However, <u>Pedrizetti</u> teaches determines subscribers to which the published item should be replicated based upon at least one entry in the index including the hashed value if the hashed value is found in the index (See e.g. <u>Pedrizetti</u> - col. 5, lines 7-45 and col. 6, lines 45-48).

As for Claim 19, <u>Zarmer</u> as modified above teaches the system of Claims 1 and 17. <u>Zarmer</u> does not teach a hash value for items to be published. However, <u>Pedrizetti</u> teaches determining subscribers to which the published item should be replicated based upon the default list if the hashed value is not found in the index (See e.g. <u>Pedrizetti</u> - col. 3, lines 5-41).

As for Claim 20, <u>Zarmer</u> as modified above teaches the system of Claims 1 and

16. <u>Collison</u> also teaches a plurality of strings identifying the published item and

substitutes a wildcard for one of the strings to search for matching entries in the index

which include a wildcard (See e.g. <u>Collison</u> - paragraphs [0026-0031]).

As for Claim 21, <u>Zarmer</u> teaches the system of Claim 1. <u>Zarmer</u> does not teach

a hash value for items to be published. However, <u>Pedrizetti</u> teaches determining

subscribers to which the published item should be replicated based upon the default list

of subscribers for published items without matching entries in the index (See e.g.

<u>Pedrizetti</u> - col. 3, lines 5-41).

As for Claim 29, <u>Zarmer</u> teaches the system of Claims 23 and 28. <u>Zarmer</u> does

not teach a hash table. However, <u>Pedrizetti</u> teaches building a hash table based on

said at least one string (See e.g. <u>Pedrizetti</u> - Claim 2 and col. 4, lines 55-58).

As for Claim 30, <u>Zarmer</u> as modified above teaches the system of Claims 23, 28

and 29. <u>Zarmer</u> does not teach a bitmap string. However, <u>Pedrizetti</u> teaches building a

bitmap string for each entry representing subscribers to an item of data (See e.g.

<u>Pedrizetti</u> - col. 4, lines 1-13 and 50-54).

As for Claim 31, <u>Zarmer</u> teaches the system of Claim 23. <u>Zarmer</u> does not teach a hash table. However, <u>Pedrizetti</u> teaches building a hash table of entries (See e.g. <u>Pedrizetti</u> - Claim 2 and col. 4, lines 55-58).

As for Claim 32, <u>Zarmer</u> teaches the system of Claim 23. <u>Zarmer</u> does not teach a bitmap string. However, <u>Pedrizetti</u> teaches generating a bitmap string representing subscribers to an item of data (See e.g. <u>Pedrizetti</u> -col. 4, lines 1-13 and 50-54).

As for Claim 33, <u>Zarmer</u> as modified above teaches the system of Claims 23 and 32. <u>Zarmer</u> does not teach a bitmap string. However, <u>Pedrizetti</u> teaches generating a bitmap string having one bit for each subscriber (See e.g. <u>Pedrizetti</u> -col. 5, lines 26-45 and col. 4, lines 50-54).

As for Claim 34, <u>Zarmer</u> as modified above teaches the system of Claims 23 and 32. <u>Zarmer</u> also teaches wherein said step of generating a bitmap string includes removing a subscriber from the bitmap string representing subscribers to an item of data if the subscriber has specified the item of data as an excluded item in a negation set (See e.g. <u>Zarmer</u> - col. 4, line 66- col.5, line 7 and 26-45, and RemoveInterestedView – col. 14, lines 22-27 and RemoveInterestedParties col. 28, line 65- col. 29, line 35).

As for Claim 35, <u>Zarmer</u> teaches the system of Claim 23. <u>Zarmer</u> does not teach a bitmap string. However, <u>Pedrizetti</u> teaches building a bitmap string for representing the default list of subscribers (See e.g. <u>Pedrizetti</u> - client is subscriber - col. 3, lines 40-57 and col. 4, line 66- col.5, line 7).

As for Claim 36, <u>Zarmer</u> as modified above teaches the system of Claims 23 and 35. <u>Zarmer</u> does not teach a bitmap string. However, <u>Pedrizetti</u> teaches the step of building a bitmap string for representing the default list of subscribers includes adding each subscriber having a list comprising a whole set (See e.g. <u>Pedrizetti</u> - col. 4, line 66-col.5, line 7 and 26-45).

As for Claim 37, <u>Zarmer</u> as modified above teaches the system of Claims 23 and 35. <u>Zarmer</u> does not teach a bitmap string. However, <u>Pedrizetti</u> teaches the step of building a bitmap string for representing the default list of subscribers includes adding each subscriber having a list comprising a negation set (See e.g. <u>Pedrizetti</u> - col. 4, line 66- col.5, line 7 and 26-45).

As for Claim 39, <u>Zarmer</u> teaches the system of Claim 23. <u>Zarmer</u> does not teach a hashed value. However, <u>Pedrizetti</u> teaches the determining step includes generating a hashed value based on at least one string identifying the published item (See e.g. <u>Pedrizetti</u> - col. 4, lines 1-17, 55-59).

As for Claim 40, <u>Zarmer</u> as modified above teaches the system of Claims 23 and 39. <u>Zarmer</u> does not teach a hashed value. However, <u>Pedrizetti</u> teaches the determining step includes searching for the hashed value in the index (See e.g. <u>Pedrizetti</u> - col. 5, lines 7-45).

As for Claim 41, <u>Zarmer</u> as modified above teaches the system of Claims 23 and 38. <u>Collison</u> also teaches a plurality of strings identifying the published item and substitutes a wildcard for one of the strings to search for matching entries in the index which include a wildcard (See e.g. <u>Collison</u> - paragraphs [0026-0031]).

Response to Arguments

18.   Applicant's arguments filed November 17, 2006 have been fully considered but they are not persuasive and are moot in view of the new ground(s) of rejection.

19.   Claim objections and 112 rejections are added based on the amended claims.

20.   In regards to the 101 rejections, the amendments to the claims do not overcome the rejections. There are two separate 101 issues: software per se and lack of a tangible result. First, as for the software per se issue, software alone cannot be patented. It must be claimed in conjunction with a proper computer-readable medium or hardware. See MPEP § 2106. Claims 1-22 and 44 are software. The system of Claims

1-22 can be fully implemented in software. Claim 44 is a product-type claim that claims

instruction not a method with a physical element. It is therefore also software. The

claims lack the necessary physical articles or objects to constitute a machine or a

manufacture within the meaning of 35 USC 101. They are clearly not a series of steps

or acts to be a process nor are they a combination of chemical compounds to be a

composition of matter. As such, they fail to fall within a statutory category. They are, at

best, functional descriptive material *per se*. Descriptive material can be characterized

as either "functional descriptive material" or "nonfunctional descriptive material." Both

types of "descriptive material" are nonstatutory when claimed as descriptive material *per*

se, 33 F.3d at 1360, 31 USPQ2d at 1759. When functional descriptive material is

recorded on some computer-readable medium, it becomes structurally and functionally

interrelated to the medium and will be statutory in most cases since use of technology

permits the function of the descriptive material to be realized. Compare *In re Lowry*, 32

F.3d 1579, 1583-84, 32 USPQ2d 1031, 1035 (Fed. Cir. 1994). Merely claiming

nonfunctional descriptive material, i.e., abstract ideas, stored on a computer-readable

medium, in a computer, or on an electromagnetic carrier signal, does not make it

statutory. See *Diehr*, 450 U.S. at 185-86, 209 USPQ at 8 (noting that the claims for an

algorithm in *Benson* were unpatentable as abstract ideas because "[t]he sole practical

application of the algorithm was in connection with the programming of a general

purpose computer."). See MPEP § 2106. Next, in regards to the lack of a tangible

result for Claims 1-22, the amendments do not cure the rejection because the

replication/display of the published item is an optional and intended use. The tangible

replication and sending of the item to the subscriber is not required by the claim.

Accordingly, Claims 1-22 and 44 are not statutory matter.

21.   In regards to the prior art rejections and arguments, the Applicant's arguments

are general but the claims do not express the differences argued. Although the claims

are interpreted in light of the specification, limitations from the specification are not read

into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir.

1993). For example, on page 21 of the arguments, Applicant argues that the invention

"can resolve with one hit the exact subscribers the item is to be distributed to, even

though the item itself was not known". While this might be true, the claims do not

include the limitation, especially not the independent claims. Also, on page 22, the

argument is made that the prior art is based only on "already-known information".

However, nothing in the claims states that the invention uses anything other than know

information. Even the use of wildcards for areas of interest does not mean that the

published item is unknown. Applicant's other main argument is that the invention works

in "constant time", not a linear search or hash, which is different than the prior art. The

examiner disagrees because the index as described in a hash table which is still a list

that must be searched for the published item. Once the item is found, then the

subscribers are all known. The search time seems to still depend on the number of

published items in the index, even though the number of subscribers does not matter. It

is unclear how the search of the index can be done in constant time or in one hit since

the time would seem to depend on the number of published items in the index. The

claims are further confused by the use of intended use language. A recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. Therefore, the examiner is unable to fully ascertain the meaning of constant time.

22.   In regards to the 103 rejections and arguments, Applicant argues that the additional references do not overcome the deficiencies of <u>Zarmer</u> argued. The examiner disagrees because for the reasons stated above <u>Zarmer</u> does not have the deficiencies argued. Additionally, while <u>Zarmer</u> does not teach wildcards, <u>Collison</u> does teach wildcards used in the topics that a subscribers wants to subscribe to. The lists on which the index of the invention is built allows the subscriber to use wildcards is the same way to select the published items that the subscriber is interested in.

23.   Therefore, Claims 1-8, 12, 22-28, 38 and 42-44 are unpatentable over <u>Zarmer</u> in view of <u>Collison</u> and Claims 9-11, 13-19, 20-21, 29-37 and 39-41 unpatentable over <u>Zarmer</u> in view of <u>Collison</u> and <u>Pedrizetti</u>.

Conclusion

24.   Applicant's amendment necessitated the new ground(s) of rejection presented in

this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37

CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Christyann Pulliam whose telephone number is 571-

270-1007. The examiner can normally be reached on M-Th 8:30am-6pm, every other

Fri 8:30am-5pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Jeffrey Gaffin can be reached on (571) 272-4146. The fax phone number

for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

CRFP